

What is claimed is:

1. A method of producing a hydraulic binder foam, said method comprising:  
forming a slurry comprising a hydraulic binder, a foam stabilizing agent and water;  
conveying said slurry to a length of hose;  
introducing an amount of gas into said slurry in said length of hose at a flow rate and pressure sufficient to cause said slurry to foam and to convey said foam through said length of hose.
2. The method of claim 1, wherein said hydraulic binder is selected from the group consisting of Portland cement, gypsum, and combinations of Portland cement and gypsum.
3. The method of claim 1, wherein said hydraulic binder is gypsum.
4. The method of claim 1 or 3, wherein said foam stabilizing agent is polyvinyl alcohol.
5. The method of claim 1, wherein said slurry further comprises a set retarder.
6. The method of claim 1, further comprising introducing a set accelerator into said foam.
7. The method of claim 1, further comprising introducing aluminum sulfate into said foam.
8. The method of claim 7, further comprising spray applying said foam to a substrate and allowing it to harden on said substrate.
9. The method of claim 1, wherein said hydraulic binder is calcium sulfate hemihydrate, said foam stabilizing agent is polyvinyl alcohol, and further comprising introducing aluminum sulfate into said foam in said length of hosing.

10. A method of forming a stabilized foam effective for spray application, comprising:

mixing a formulation comprising calcium sulfate hemihydrate, polyvinyl alcohol, a set retarder; and a sufficient amount of water to react with said calcium sulfate hemihydrate to form calcium sulfate dihydrate and cause said mix to form a pumpable slurry;

conveying said slurry to a length of hose;

introducing air into said slurry in said length of hose to create turbulence and mechanically form a foam;

conveying said foam through said hose; and

introducing aluminum sulfate into said foam to accelerate the formation of calcium sulfate dihydrate.

11. The method of claim 10, further comprising spray applying said foam onto a substrate.

12. A fireproofing composition adapted to be spray applied to a steel substrate, comprising a hydraulic binder, a foam stabilizing agent and a set retarder, said composition, when mixed with water and gas, providing a settable foam capable of spray application to a steel substrate and which, after spray application is adherent to said substrate in the foamed state and after setting.